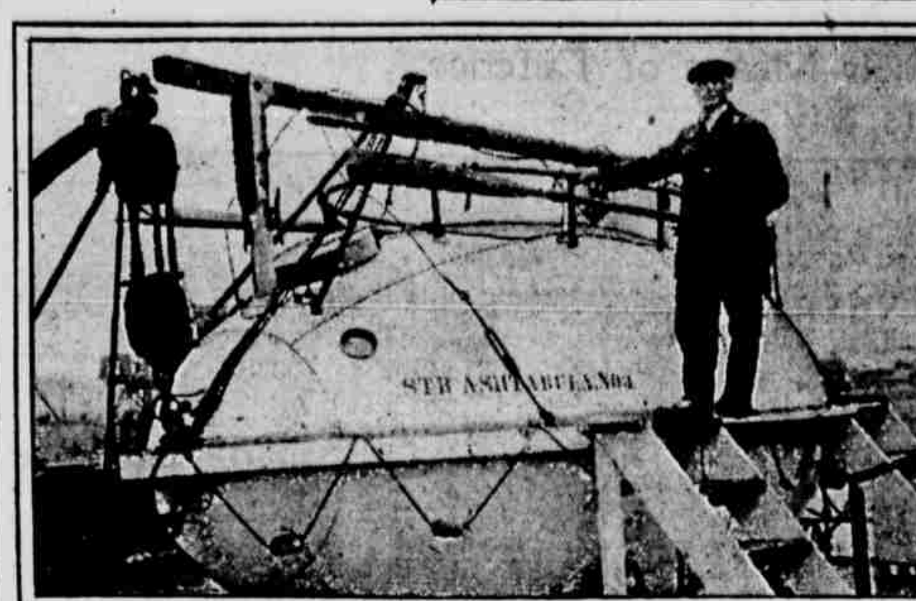
BETTER LIFEBOATS NEEDED TO SAVE VICTIMS OF U-BOATS

Importance of More Efficient Safeguards on Transatlantic Steamships Emphasized by Prospect That Troops Will Be Sent Abroad in Answer to France's Appeal



GLOBULAR LIFEBOAT RECENTLY INSTALLED UPON THE CAR-FERRY STEAMER ASHTABULA ON THE GREAT LAKES

LIFEBOAT URAED ON HER WAY ACROSS THE ATLANTIC

LIFE BOAT URAED ON THE ROCKS IN GLOUCESTER HARBOR, THE BOAT WAS ABLE TO CONTINUE TO BOSTON, WITHOUT REPAIRS, WHEN REFLOATED AT HIGH TIDE.

GEN. PETAIN asks that our soldiers be sent to France at the earliest possible moment. And it seems that our Government is doing its utmost to rehabilitate the great German liners taken over here so that we may have suitable transports for the speedy movement of troops to Europe. The question is whether in this work for a stupendous service the responsible authorities are not overlooking some details of a vital nature? What is being done toward equipping these erstwhile liners with life saving apparatus that will really save life should any of the transports become the targets of submarines?

Again, if we find it more expedient to use any of the enemy ships for the carriage of food to our allies the fact stands out beyond denial that much should be done that has not heretofore been done in the way of providing better facilities for the escape of the people aboard. There is a twofold obligation which is becoming daily more insistent. The havoc of the submarine is having its psychological effect upon sailormen and more and more difficulty is being experienced in obtaining crews at prices short of the prohibitive. The men are not cowards, but they are dismayed by the odds against them that so often do not give them even a fighting chance for life.

Many times of late crews have mutinied rather than make a return voyage across the Atlantic, and this is hardly to be wondered at. Therefore something must be done in the name of humanity the better to safeguard those in peril upon the sea, and next as a purely economic provision every capable seafarer should be carefully conserved. This is brought still nearer to us, considered as a matter of national defence, when we realize that each armed American merchantman now sailing through the submarine zone is carrying naval officers and enlisted men who have qualified for that work by special training. They should not be needlessly jeopardized, as their loss cannot be quickly made good.

Again and again since Germany instituted her general warfare upon trading craft of all sorts her U-boat commanders have set the crews of unarmed ships adrift in the open sea and upon storm tossed waters. Scores of lives have been sacrificed in this fashion, either by the boats capsizing in launching or swamping afterward amid angry waves, and even where these frail carriers have kept afloat despite the sweep of the sea all too often some or most of their occupants have succumbed to the rigors of the weather.

The men on armed vessels have less of a chance to get away from their stricken ships because the U-boat, for her own security, must attack from under water, and therefore strike without warning. It was in this very way that the Aztec fell a victim to the submarine. So far as the public knows that steamer was the first armed merchantman in the present war to sail from the United States under the Stars and Stripes. A German U-boat on guard somewhere off the coast of France lay in wait for her upon that gale swept night last April 1. It was seemingly further uncanny evidence of the thoroughness with which Teuton espionage follows the movements of all transatlantic shipping.

Lieut. William Fuller Gresham, who commanded the navy gun crews provided for the Aztec before she steamed from this side, has already graphically described the sinking of the freighter and the struggle that followed in the case of his own lifeboat before a succoring trawler came to the aid of the nearly exhausted men. One of the small boats was crushed against the side of the Aztec in lowering, and the third boat, containing twenty-seven men, disappeared in the darkness and has never been heard from since.

For hours and hours Lieut. Gresham and eighteen companions—most of them scantily clad—battled through the night and bailed incessantly to keep the little craft from sinking; and finally when the friendly steamer hove near by the seas were running so high that certain destruction would have been invited had the men tried to bring the boat alongside. Though dreadfully wearied, the men pulled away desperately at their oars until dawn and the lessening of the gale. Then the trawler slipped between them and the wind and under that sheltering lee they were able to scramble aboard. Relief came none too soon.

On the 28th of April the oil carrying steamship Vacuum, armed and having an American naval gun crew aboard, was torpedoed during heavy weather off the Scotch coast. Three lifeboats were launched. One was swamped just after the steamer sank; the second boat was capsized by a huge sea, but fortunately some of the men held on and were saved; and the third boat managed to reach the coast despite the fact that it was half full of water most of the time. For thirty hours the men in that open boat bailed continuously, and their ceaseless toil at the oars was lightened a little by an improvised sail. Nearly numb with wet and cold, the survivors were pulled ashore by fishermen and carried to their nearby huts.

Some of the men in the capsized boat were picked up by a patrolling vessel, but exposure exacted a dire toll. Lieut. C. C. Thomas lost his life and so did twenty-odd of the rest of the people aboard the tanker at the time she was struck. Most of these perished when one of the lifeboats was swamped shortly after getting away from the Vacuum.

The American oiler Healdton was sent to the bottom without warning on the 21st of March, although she displayed all of her lights for the purpose of indicating she was unarmed. Two boats got away from the ship, but a third one, containing nineteen men, was overturned when the ship heeled and disappeared below the waves. All of these men were drowned. Out of a total crew of forty-one twenty lives were sacrificed by the sinking of the Healdton. The survivors, thinly clad, fought their way for twelve hours through driving hail and snow until picked up by the Dutch trawler Java.

Hardly a single steamship has been sunk in the course of the last few months without a cruel loss of life. In the case of the British steamship Artist, lost in January, a small boat containing sixteen men was picked up after being driven about by the wind for three days and during that time seven of the original load of twenty-three had succumbed to wounds and exposure.

After the Vigilancia was torpedoed the men that were rescued were exposed in open lifeboats for fifty-four hours before help reached them. Time and again heavy seas broke over those frail craft, soaking the occupants through and through, and the cold wind aggravated their sufferings. The Vigilancia was stricken something like 200 miles off the coast of the British Isles.

The Columbian, an American-Hawaiian steamship, was sunk off Cape Finisterre, Spain, on the 8th of last November, and while most of the crew were landed upon the Spanish coast, one boat was adrift in the broad Atlantic for fifteen days before being picked up off our shores by the U. S. S. Seneca. The condition of the few survivors was pitiable and during their two weeks of aimless navigation their hardships must have been appalling. Eleven of their fellows were buried in that interval and for days all they had to eat were the uppers of two pairs of leather boots. These men were physical wrecks when found and one of their number lost both legs in consequence of exposure.

It is not necessary to recount further the tantalizing irony of the so-called safety in open boats upon the sea. Something must be done, and done promptly, to insure a reasonable measure of security for the crews of transatlantic vessels if those ships are to maintain the service expected of them.

This has been emphasized by Lieut. Gresham in an official report made to the Navy Department and he speaks with a fulness of knowledge born of

RESCUE OF THE SURVIVORS OF THE STEAMSHIP COLUMBIAN. THEY HAD BEEN FIFTEEN DAYS ADRIFT IN AN OPEN BOAT AND ELEVEN OF THEIR SHIPMATES HAD DIED OF PRIVATION AND EXPOSURE

his distressing experience. He has urged that all American steam vessels entering the war zone shall carry lifeboats enough to accommodate every one aboard and recommends that the space provided for each person shall be 50 per cent. greater than that heretofore prescribed by the regulations of the Department of Commerce. His report also calls for hand pumps that will make it possible to keep lifeboats fairly well drained without recourse to the usual exhausting means of bailing, and instead of the prepared foods such as are now provided and which induce thirst he suggests other comestibles that will keep up strength without provoking a feverish demand for water.

Probably no country has suffered relatively more than Norway by the ravages of the submarine, and Norwegian sailors are now insisting upon amplified safeguards in order to reduce in a measure at least the perils of exposure to Teuton U-boats. During the month of April German submarines sank seventy-odd Norwegian vessels and more than fivescore seamen lost their lives in consequence.

The Norwegian Government is fully alive to the menace that threatens the very existence of Norway's merchant marine, and it therefore should be no surprise to learn that it has recently issued a regulation to all of its Consuls-General which prescribes, among other things, that ships flying the national flag, trading within the war zone, shall carry besides the ordinary lifeboats Brude lifeboats, or Donvigs buoys, or solid built liferafts.

The purpose of thus supplementing the ordinary small boats is to furnish the crews with life saving equipment that can be counted upon to survive any condition of the sea or the sudden sinking of the vessel. In the case of the Brude lifeboat, however, shelter is supplied which is well nigh universally missing in other emergency craft.

Lieut. Gresham has not mentioned the need of covered boats, but the records of the submarine's work show how sorely needed is this very element of protection. Men may withstand hunger and thirst for a long while, but exposure to cold and wet saps the body's vitality at an amazingly rapid rate. And it will be recalled that upon a great many occasions the crews, in abandoning their ships, have had to do so half clad and at best nearly always without the kind of clothing to keep them dry and sufficiently warm.

The Brude lifeboat is not unknown on this side of the Atlantic, and one of the big car ferry steamers on the great lakes, the Ashtabula, is supplied with that type. The man responsible for this novel craft is a Norwegian, Capt. Ole Brude, and his inspiration was born of experience upon many a storm driven sea. He knew how hard and at times impossible it was to get the ordinary lifeboats overboard or to drop them into the water before they were smashed or capsized with their human load. His aim was to design a lifeboat that might fall forty or fifty feet right into the water without injury either to itself or to those inside of it. Again, he realized that the sudden sinking of a vessel might make it impossible to launch the conventional lifeboat, and that if drawn into the vortex of the foundering craft it would probably be destroyed. In short, he planned to produce a lifeboat that would float no matter how it got clear of the ship that carried it and that would be fairly indifferent to the state of the weather and the condition of the sea.

Therefore he designed a globular structure of steel—a gigantic metal egg—built with a double bottom that can be loaded with water ballast to insure stability and to enable the craft to weather the most violent of storms. This ballast can in part be made up of drinking water, and some of the tanks can be loaded with provisions ample enough to supply thirty persons with food for a week or more. Around the longitudinal middle of the boat is a heavy wooden guard or fender, the like of which no other lifeboat has, and this is strong enough to withstand successfully a good many heavy blows against the side of a vessel. It is just this sort of pounding that smashes so many boats at the time of their launching, especially when the sea is rough.

The Norwegians are a race of navigators, and they were too conservative at the start to acept Capt. Brude's claims offhand. They frankly told him that they had their doubts, and put it up to him to prove that he had evolved something that was better and really worth while. Accordingly, he built a fourteen foot boat of his chosen type, which he named the Uraed, and during the winter season of 1904 he crossed the Atlantic in her under sail, and without convoy of any description. He had three companions to help him while away that venturesome trip. The first leg of that extraordinary voyage was from Aalesund, Norway, to Shetland, and thence to St. John's, Newfoundland. During the voyage the Uraed encountered a number of severe storms, and upon several occasions was obliged to lie hove-to by means of a sea anchor for days at a time.

Notwithstanding the severity of the season, the four men aboard were snug and comfortable inside of her, but would undoubtedly have perished in an open boat because of the low temperature prevailing on several occasions. The Uraed could be rowed or sailed; and under canvas, with a free wind, she made as much as seven knots an hour. Before leaving Norway, Brude purposely dropped the boat from a height of nearly forty feet with people inside of her, in order to prove that it was practicable to do so, and she bobbed up like a cork, while those within were none the worse for that experience.

The Brude boat has a number of deadlights or circular windows in her upper shell, and there are two round hatchways by which passengers can get in and out. Before lowering into the water, these hatches can be sealed from within, and the boat is then for the time being as tight as a submarine. The Uraed had a centreboard which could be lowered to make her a better sailor, and she was equipped so that she could be steered from either inside or out. Upon her long journey across the Atlantic she carried a small oil stove for cooking purposes.

After reaching St. John's and taking on some fresh water and provisions the Uraed started for Boston, but when

Defects of Apparatus Now Used Illustrated by the Cases of Lieut. Thomas and Others Who Lost Their Lives Through Exposure in Open Boats

off Gloucester she encountered a heavy snowstorm and lost her bearings. She finally landed high on the rocks inside of the harbor of Gloucester at ebb tide. That concussion would have smashed a wooden craft, but the Uraed was injured so slightly that she floated off at high water and went on her way to Boston without any to-do. From land to land, in crossing the Atlantic, the trip took eighty-seven days! At one time a storm lasted four days and during that period the Uraed was driven eastward before the wind, a distance of nearly 300 miles, right back upon her course. Of that experience Capt. Brude said: "We had no cause to fret, because we had all we needed within the boat."

The present day eighteen foot Brude boat has a maximum beam of eight feet and a height of eight feet, and is officially rated for the accommodation of thirty people inside of her. The guard around the boat outside is wide enough to furnish standing room for many othres, and pendant life lines make it possible to double the rescue capacity.

The total buoyancy when unloaded amounts to eighteen tons, with drinking water and ballast in the double bottom. The boat just described is of the sort carried upon a goodly number of oceangoing vessels; but it is now proposed to improve upon the type by installing a small gasolene motor capable of driving the craft along at a speed of five or six knots an hour, and further by equipping each boat with a wireless apparatus having an operative range of twenty-five miles.

Last year the Norwegian steamer Dronning Maud was sunk. Such of her crew as escaped in open boats perished, while those in her one Brude boat were saved. It is said that the Balto, also Norwegian, carried two Brude lifeboats, and when she was sent to the bottom her entire personnel got away and were rescued. This is not to be wondered at, because these sheltered craft are well nigh unsinkable and can float free from the deck of a foundering ship as easily as the regulation liferaft. Aboard some of the vessels carrying them the Brude boats are simply set in chocks between davits, so that they can either be hoisted out and swung overboard into the water or, by the tripping of a lever or the cutting of lashings, can be released and left to slide into the sea when the ship rolls far enough.

Considered as a lifeboat and liferaft combined two Brude boats could save 150 persons, as compared with [illegible] that can be carried in two regulation twenty-eight foot open lifeboats. The Brude lifeboat stows in less space than any other boat in existence, taking into account its total capacity, and it is unique in the character and scope of the shelter it provides against wind and wave and cold. It is quite true that Capt. Brude has inspired others along kindred lines, but, as a matter of record, none of these rival inventors have yet subjected their craft to similar tests. However, many of them may have merit, and the purpose now is to spur our authorities to the making of new regulations so that hereafter all of our transatlantic steamers shall have not only enough boats aboard to provide added space for every one but that these lifesaving craft shall be something more than merely open carriers.

STARLINGS THREATEN TO BECOME AS MUCH OF A NUISANCE AS THE SPARROWS

Both Are Firmly Established Here and Are Accused of Levying Tribute on the Farmer, Disturbing the Public Peace and Driving Native Birds Out

INERADICABLY fastened on the North American Continent are two hardy races of undesirable aliens, whose baneful activity has not received the attention it deserves. Of these two tribes one is with us almost everywhere in overwhelming numbers. The second, from all indications, is certain to become as numerous.

Both have secured themselves in part by playing upon the feelings of the amiable uninformed. Systematically, with modern efficiency in belligerent combine, they levy a war for existence upon our oldest and most deserving American citizens in their sphere.

Besides this they victimize the hard pressed agriculturist, laying a heavy tribute upon his crops, and they render him no fair degree of compensating service. They disturb the public peace; one of them may be something of a menace to the public health. In short, a complete, indignant Magna Charta, Bill of Rights or Declaration of Independence can be drawn up arraigning them justly. But nothing much more can be done, except to teach the farmer and the suburbanite to defend themselves and their properties as well as individuals may.

The aliens in question are birds, the familiar English sparrow and the starling, both natives of the Old World, who should have been allowed to stay there. Both were imported with the best of motives. The vicious character of both was well known across the water at the time, so that proper investigation might have saved us. The one comfort is that from these and other like blunders we have learned enough to pass laws which will keep out any other furred, feathered or insect pest whom any well meaning enthusiast may think to introduce.

Aliens in the sphere of wild life, once established on a new continent and multiplied beyond the possibility of man's control, are always dangerously likely to become undesirable in the extreme. They disturb the natural balance of life which existed before their coming. Natural checks on their increase, which have kept them in bounds at home, may not exist upon the new domain, or if existent may be slow in adjusting themselves to fulfill the controlling office.

Civilized man is always the biggest factor in the balance. Within three centuries civilized man has spread himself and his works over a major part of North America. Until very recently he has not troubled by legislation to establish a just and beneficent modus vivendi with his wild neighbors. The consequence is that balance is everywhere grossly disordered.

Some of our birds, the robin, for instance, have adapted themselves to man. Others have been exterminated or being shy denizens of the virgin forest, have simply been pushed off the map by the extension of the clearings. Into this ornithological chaos we have brought the sparrow and starling, species which during many centuries abroad have so thoroughly adapted themselves that they are now half domesticated, and wherever man goes and makes his home they go by choice and prosper.

The sparrow, first introduced in America about 1850, has had time to populate the continent. The starling, first introduced effectively about 1890, has occupied in force the middle Atlantic seaboard. Since he, like the sparrow, is a gregarious bird, a keen forager and a fairly omnivorous feeder, a rapid breeder and robust enough to endure the rigors of the climate anywhere in the temperate zone, there is no visible reason why he should not, in time, inherit our stretch of the world as the sparrow has done.

The sparrow was introduced for a specific purpose. He was expected to destroy certain noxious insects, especially the larvae of moths, some of them native, others like the sparrow himself mistakenly imported. The native kinds were nuisances in city parks and shaded city streets. Native birds, which now under protection are common city dwellers, would probably have come to do every service the sparrow did; but it does not require a very old resident of New York to remember the days when caterpillars rained down on the Sabbath finery of gentlefolk crossing the parks, and those caterpillars the sparrow undeniably did clean up, and New York was grateful. With the other moths, however—alien moths like the gypsy and the brown tail, which were scourges of vegetation—the sparrow failed.

At present science credits him (I quote from a letter from E. W. Nelson, chief of the Biological Survey) with having "a certain worth as an insect destroyer, especially during the breeding season," and specifically with having proved, "in the Salt Lake Valley in 1911 and 1912, an effective enemy of the alfalfa weevil, a pest recently imported from Europe." Just how much good he is doing is yet to be determined by investigations, but it seems to be agreed that the total will fall far short of establishing the sparrow in our good graces. Making a case for him is like making one for Nero; the serious harm he does is so evident and so definite.

Nobody seems to know what the starling was introduced for. It may have been thought that as a picturesque bird of marked personality and a classical inhabitant of the bowers of literature he would be a pleasing addition to our avi fauna. Attempts have been made to introduce the skylark and the European goldfinch, the latter with some success, the former without. They are songbirds. Except in a technical sense, the starling isn't, though occasional sweet fifings do vary his jarring cries, and he does surprising things as a mimic of other species. Anywhere in the five boroughs nowadays any strange bird note that strikes a practised ear will probably trace to a starling up to novel vocal tricks.

MALE ENGLISH SPARROW
COURTESY, AMERICAN MUSEUM OF NATURAL HISTORY

So far the best report on this alien's claims to esteem as an American citizen is the one published last year by Edward Howe Forbush, State Ornithologist of Massachusetts, as circular 45 of the State Board of Agriculture. Mr. Forbush credits the starling with considerable value as a destroyer of harmful insects, but the force of his report is overwhelmingly unfavorable, and he indicates plainly what fruit growers may expect if starlings become as numerous as they bid fair to do.

The sparrow, who nests so confidently under our eaves and makes a nuisance of himself, has made a host of friends among people who love to see the sweet little birds fluffing about the lawns and the pavements during the desolation of our winters. These people scatter crumbs for P. Domesticus, who is perfectly capable of feeding himself and his numerous offspring through almost any famine, and whenever an attack on his integrity is published they rush into print with hot letters to the editor, quoting from the poets and the Scriptures.

It does not much matter; we can't rid the land of the sparrow by any imaginable means; but we can, individually, make our home and farm premises so unwholesome for him that he will give them a wide berth, and this we ought to be free to do without the interference of our neighbors. Another report by Mr. Forbush (Circular 48) tells how to do it effectively.

Sparrows breed several times a year. It has been figured by geometrical progression that if all the young birds survived and bred through the normal age of fecundity in ten years the descendants of a single pair would number 275,716,973,698 birds! Of course all the young birds do not thus survive, but enough do so to have covered the United States with sparrows in sixty years, except for certain mountainous, forested and desert regions.

Since opera glass birding became popular and enthusiasts rose up to watch every park and copse in our longest settled districts, a great deal of feeling against the sparrow has been engendered. Some of it is more bitter than intelligent, which circumstance gives the sparrowphile a weapon for his cause.

Ten years ago the writer, like most other amateurs of ornithology, had, from his reading, a vague impression that English sparrows murder native songsters out of hand, mob a bluebird or a warbler, for instance, and vulgarly peck him to death. No one had actually seen it happen, but every one had heard of somebody else who said he had.

That it ever does happen, I think, is very doubtful. At nesting time when a thrush or a flycatcher or some such worthy character happens to light in a treetop near a sparrow congregation, every one has seen how the sparrows will flock around it and perch there, chirping or silent, until it grows uneasy and moves on, when they may possibly follow to repeat. But they don't attack.

Mr. Forbush quotes Robert Ridgway of the Smithsonian Institution, perhaps the most dispassionate and methodically exact scientist in ornithology who has ever lived. Of the sparrow in southern Illinois Ridgway wrote:

"The amazing increase of the so-called English sparrow has profoundly disturbed the balance of bird life. The effect on native birds is exceedingly well marked for the foreign pest has literally crowded out or by its aggressive meddlesomeness driven away from the abodes of man those charming and useful native birds, the bluebird, purple martin, barn swallow and cliff swallow. None of the native species likes its company, and in winter, when one wishes to feed the cardinals, juncos, and other native birds, it is necessary to feed many times as many of those pernicious pests, thus vastly increasing both the trouble and the expense."

It is not, then, in murder, but in expropriation that the sparrow does serious harm to the native bird. The four kinds named by Ridgway are all house or hole nesters, of about the sparrow's own size, and they are only four of possibly twenty species of such habits which the sparrow displaces consistently. Not only are the natives beautiful and engaging, by far the better birds in every way, but their economic value as friends of the farmer is great and unalloyed. Both sparrows and starlings will combine against the native pair, which fight alone. As often as the natives are obliged to leave the nest the sparrows pop into it and destroy it, with any eggs or even with callow young.

Moreover, as Mr. Nelson writes, "there is no question that an overabundance of these birds [sparrows] may result in dire consequences to the agriculturist." Crops they destroy include "grain, fruit, including grapes, cherries, strawberries, raspberries, currants, blackberries, peaches, apples, pears, plums, tomatoes, apricots and figs. Young plants, including peas, beans, cabbage, lettuce, radishes, corn and other vegetables, are torn to pieces or eaten to the ground. Garden seeds, including those of many vegetables, are scratched up when planted or eaten on the stalk. There is scarcely a garden fruit or vegetable which does not suffer more or less from the attacks of this bird. Buds and blossoms of numerous plants are destroyed by it.

"Its filthy habits, which injure buildings, vegetation and clothing, constitute a minor annoyance." (Forbush.)

It is also charged upon evidence not only with robbing the poulterer of his feed but with spreading epidemic diseases of poultry by carrying from run to run the vermin which transmit them.

The best one can say for the starling is that so far he is not numerous enough to have done a great annual damage. Two broods a year are his limit, and in his demands for subsistence and nesting sites he is much more particular than the sparrow, whereby his extension of territory is restricted somewhat. He may be seen in the city—I have seen him perched on a high wire far down Broadway, in the canyon or skyscraper district—and he is the feathered feature of Central Park, which happens to have been the place of his successful introduction. But it is in the country that he bids fair to become a problem.

A bigger and stronger bird than the sparrow, he wages successful war against native birds which the sparrow had never troubled. He, too, is a house and hole nester, and he scorns to find a nesting place of his own if native birds of like habits are conveniently at hand for him to oust. Mr. Forbush finds that he "comes directly in competition with screech owls, sparrow hawks, flickers and other woodpeckers, nuthatches, crested flycatchers, martins, bluebirds, tree swallows and wrens." All these birds are valuable destroyers of noxious small rodents or insects.

"The skilful manner in which [illegible] evicts the flicker"—our largest common woodpecker, of about robin size—"inspires the observer with a certain admiration. The starlings quietly watch and never interfere while the flicker digs and shapes its nesting place in some decaying tree, but when the nest is finished it is occupied by them the moment the flicker's back is turned.

"On the return of the flicker a fight ensues, which usually results in the eviction of the particular starling then in the hole, which, however, keeps up the fight outside while another enters the hole to defend it against the flicker, which, having temporarily vanquished the first, returns only to find a second enjoying the advantages of possession. As Mr. Job says the flicker is confronted with an endless chain of starling and finally gives [illegible]

"In this or some other way the starlings, working together, always succeed in driving the flicker from its home, in which they immediately begin to build. The moment the flicker gives up vanquished the starlings molest it no more, allowing it to hew another hole, either in the same tree or in one near by, when a similar fight ensues with more starlings, and so the flicker is driven literally from pillar to post until it has prepared sufficient homes for the starlings of the neighborhood and all are satisfied.

"The principal spring work of the flicker in the future will be the preparation of nesting places for the starlings. It is probable that the [illegible] woodpecker and the red headed woodpecker also will serve as carpenters for the interloper."

Besides its direct [illegible] ing native birds, it troubles [illegible] rectly by ousting the [illegible] thereupon ousts the smaller [illegible] the outlying districts. Mr. [illegible] prepared to say that this process is [illegible] adjustment going on.

Early in April a sparrow-starling conflict was in progress [illegible] windows. The eaves of a [illegible] housed ten or twelve sparrow [illegible]. The sparrows had walled their [illegible] nests with field straw [illegible] grasses. A pair of starlings considered the stuff superior for their own building and with all the [illegible] lessness of a self-appointed [illegible] or a half baked Hohen[illegible] took what they wa[illegible] a time, efforts of the [illegible] to prevent them [illegible]

It might have been [illegible] with casual daring [illegible]

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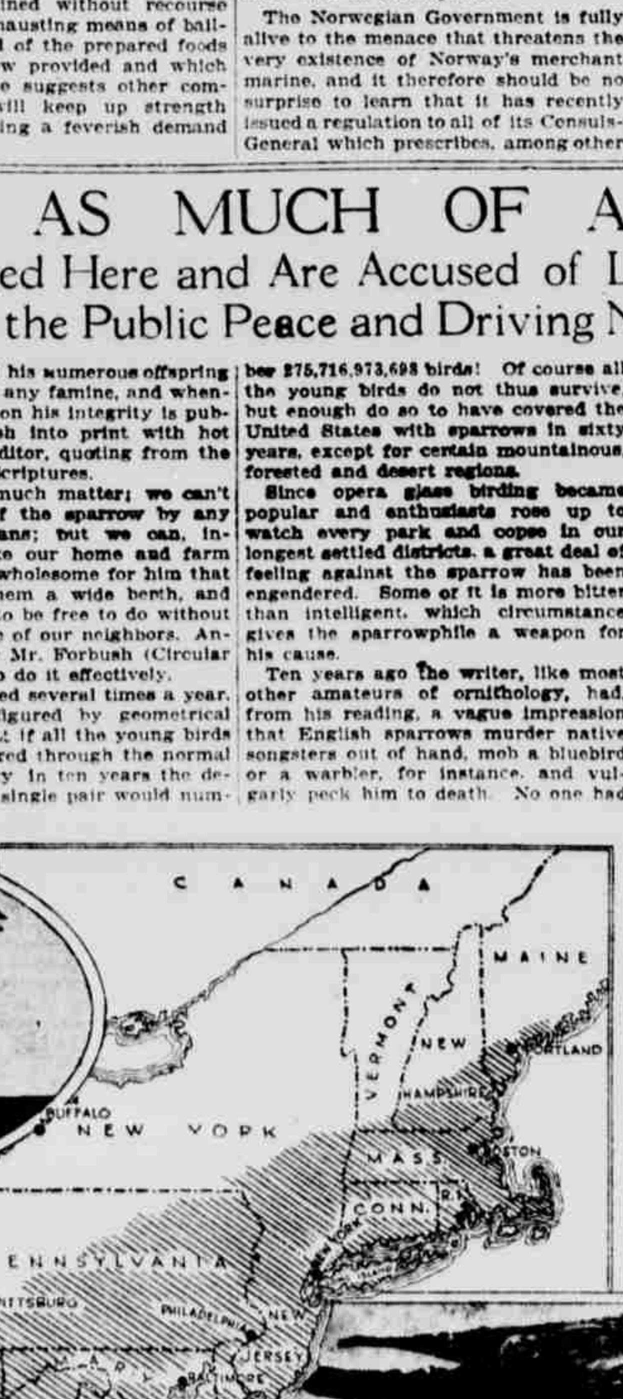

PROBABLE RANGE OF THE STARLING IN AMERICA IN 1916

THE STARLING FEEDING ON A GRAVEL WALK
COURTESY, AMERICAN MUSEUM OF NATURAL HISTORY